Trash is Worse Than Ugly!

Activity 9: Stream Clean Up

Goal

- ❖ Help the stream by removing trash and litter.

Voluntary State Curriculum

1.0 Skills and Processes
- A Scientific Inquiry: 5, 6, 8, 9
- B Critical Thinking: 1, 2
- C Application of Science: 1,2

6.0 Environmental Science
- C Natural Resource & Human Needs: 1
- D Environmental Issues: 1

Time Two hours at the stream site.

Materials

- ✓ Boots or waterproof/old shoes
- ✓ Long pants
- ✓ Gloves (garden or work type)
- ✓ Sturdy trash bags
- ✓ First Aid kit
- ✓ Hand wipes (optional)
- ✓ Clipboard
- ✓ Pencils
- ✓ "Stream Clean Up" Data Sheet

Vocabulary

Landfill – an area of land used for trash disposal

Recycling - to use something again

Background

The effect of accumulations of trash such as construction debris, junked cars, discarded appliances, and litter is not merely aesthetic. Pollutants can be released into the stream as these materials decompose. Large objects, such as cars, can lodge in stream channels and aggravate flooding or bank erosion. The damage associated with litter along a waterway is compounded when it becomes a dumping ground, inviting more debris to be heaped alongside what is already there. For many of Maryland's most neglected and abused waterways, a good old-fashioned trash clean up is the logical first step towards creating a cleaner aquatic environment.

Motivation

- ❖ Prep for site visit.

Procedure

1. The teacher should pre-walk the stream to determine the extent of the clean up and logistics of trash removal. Choose a meeting site where students are to leave full bags for pick-up.

2. Contact landfill and recycling centers to determine hours, location, items acceptable, and how the items should be prepared. One source of information is the Maryland Environmental Service Recycling Information Center, 1-800-492-9188. Determine who will transport the trash to the landfills and recycling centers.

3. Determine the method of clean up:

    a. Assign sections of the stream per team of students.

    b. Assign teams specific types of trash to pick up along the stream section: aluminum, paper, glass, plastic, etc. (NOTE: This method lets you have trash ready for recycling).

4. Divide the group into teams and explain the method chosen. Each team will have trash bags and a data sheet for recording.

    a. Pick up the trash along the stream. Have one participant of each team record on the data sheet what is collected.

    b. Relate these precautions to the students:

        i. Don't let the trash bag get too heavy. Drop the bag off at the meeting site, get a new bag and continue.

        ii. Do not pick up broken glass.

        iii. Empty cans and bottles of liquids on a grassy area away from the stream, then put them in the bag.

        iv. Never drink from the stream or from cans or bottles collected.

        v. Any suspicious containers or barrels should be

left alone, not touched or moved. Note each item's location.

vi. Do not go on private property.

vii. Report any scrapes or cuts.

viii. Do not pick up any trash from sewage overflow, personal sanitary materials or needles.

c. Return to the meeting site at designated time.

d. Have teams separate and prepare recyclable trash.

Modifications

- Work with a partner.

Wrap Up

- Let students share stories of what they found and what happened to them during the clean up.
- Have students analyze their recorded data and discuss the following information:
  - What type of trash did they collect the most of?
  - What percentage of trash was recyclable?
  - Describe evidence of other pollutants: oil in the water, mud pollution from erosion, etc.
  - What effect did the trash have on the stream?
  - Could you determine the source of the trash?
  - Were there larger amounts of trash downstream from storm drains or near bridges and roads?
  - What can students do to reduce litter and pollution in streams?

Optional Challenge/Extensions

- Make a list on the activity sheet of pollutants or objects that could not be removed or taken care of by students. Contact the appropriate county office to handle the problem. Check the stream later to see if anything has been done.
- Do a clean up at the same site in a month's time. Compare data.
- Start a recycling system at school or in the neighborhood, or visit a recycling center.
- Do a school ground or neighborhood clean up, recognizing that trash thrown on the ground can end up in the stream by being washed into storm drains.
- Journal.
- Project WET Activities – A-maze-ing Water; The Pucker Effect; Sum of the Parts

Assessment

- Completion of data sheet.
- Participation

Trash Is Worse Than Ugly!

Trash in and around a stream is an ugly sight! Have you seen streams where tires, boxes, plastic and other garbage has been dumped or washed into the water? Rather than have their trash taken to a junkyard, sometimes people leave things like refrigerators or cars in streams.

It would be important to clean trash out of our streams just for the sake of having a pretty stream again. But, trash is worse than ugly. It can be very harmful to the stream. All materials break down slowly when they are exposed to air and water. You can see this kind of breakdown when metals rust. Most of the time you can't see it. Usually chemicals that pollute the stream are released. Some can be very poisonous.

Large trash items, like refrigerators and cars, can also cause erosion. They are so big that the stream has to change its course to get by. Soil is taken out of the stream bank as the stream "digs" its way around the trash.

Cleaning up your stream helps restore its beauty <u>and</u> its health.

Student Page

Stream Clean Up

Name of the Stream:_____

Date:_____

1. Describe the part of the stream your group cleaned. Use the names of streets or other landmarks to explain where you worked.

   _____
   _____
   _____

2. Clean Up Record
   What kinds of trash were most common?

   _____
   _____
   _____

   How do you think the different kinds of trash got into the stream or on its banks?

   _____
   _____
   _____
   _____

3. What's next?

   Will you recycle any of the trash you picked up? ☐ Yes ☐ No

   Which trash will you recycle?_____
   _____
   _____

   Will your group need to contact anyone about picking up the trash you collected?_____

   Is there anything your group can do to help keep trash out of the stream?

   _____
   _____
   _____
   _____

Stream Clean Up
Data Form

Date:_____ Stream: _____ County:_____
School:_____

Number of miles cleaned (Example: 1/8 mile, ½ mile, etc) _____

Location of Stream Cleaned: (List names of roads that cross the stream, where possible. Example: Mill Run between Oak Street and Baltimore Pike). Find the location on a map.

Type of trash found. Check all those found:

Paper	Plastic	Glass	Appliances	Aluminum	Styrofoam	Cars or car parts	Other

Most unusual item(s) found:

Comments:

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